

## New Tax Structure Observed In Y-12ers' Current Paychecks

As a result of changes in the Income Tax Laws, beginning this week, paychecks will be larger, but employees may find when they file their 1964 income tax returns next year that the cash balance due on their taxes is higher than previous years.

This paradox is the result of the new Revenue Act of 1964 which was passed by Congress recently. The new Income Tax Law reduced the amount of federal income taxes for each taxpayer and also reduced the rate at which companies are required to withhold wages for prepayment of taxes. For most employees the reduction in taxes is approximately 2% but the reduction in withholdings is 4%. The net effect is that the company will withhold less than the amount of taxes that the employee will have to pay at the end of the year.

Employees may estimate their 1964 tax liability and withholdings from the table and forms appearing elsewhere on this page. If it is found that the net cash due for 1964 taxes has been increased, employees may want to decrease the number of exemptions they are claiming by filing a revised Form W-4, Employee's Withholding Exemption Certificate, with the Timekeeping Department. A decrease in the number of exemptions will increase the amount withheld each pay period and will assist in prepaying 1964 taxes.

The Form may be obtained from the Timekeeping Department.

### ESTIMATE OF TAXES WITHHELD

An estimate of taxes withheld by the Company can be obtained by referring to check stubs before and after the change is the rate of withholdings or by performing the following calculations.

- Earnings, use most recent monthly salary **Feb. '64** **Mar. '64**  
or weekly wages \$ \_\_\_\_\_ \$ \_\_\_\_\_
- Exemptions Claimed\* \_\_\_\_\_  
if paid weekly, multiply by \$13 \_\_\_\_\_  
if paid monthly, multiply by \$56 \_\_\_\_\_
- Taxable Earnings, line 1 minus line 2 \$ \_\_\_\_\_ \$ \_\_\_\_\_
- Withholding Rate, Multiply line 3 by 18% 14%  
Amount of Taxes Withheld \$ \_\_\_\_\_ \$ \_\_\_\_\_
- Total Amount Withheld for 1964, multiple line 5  
b. If paid weekly: Feb. \_\_\_\_ x 9 plus Mar. \_\_\_\_ x 43 \$ \_\_\_\_\_  
b. If paid monthly: Feb. \_\_\_\_ x 2 plus Mar. \_\_\_\_ x 10 \$ \_\_\_\_\_

\*Use the number of exemptions listed on the current W-4 Form.

### ESTIMATE OF 1964 INCOME TAX

- Annual Earnings \$ \_\_\_\_\_
- Other Income \_\_\_\_\_
- Gross Income, line 1 plus line 2 \$ \_\_\_\_\_
- Deductions from Gross Income  
a. Itemized\* \$ \_\_\_\_\_  
b. Standard\*\* \_\_\_\_\_
- Exemptions, Number \_\_\_\_ x \$600 \_\_\_\_\_
- Total Deductions and Exemptions \_\_\_\_\_
- Annual Taxable Income, line 3 minus line 6 \$ \_\_\_\_\_
- Estimated Tax Liability from Table \$ \_\_\_\_\_
- Estimated Withholding Taxes from \$ \_\_\_\_\_
- Difference, line 8 minus line 9 \$ \_\_\_\_\_  
If line 9 is smaller than line 8 this is the amount of tax which will be owed for 1964.

\*Use 1963 deductions if a substantial change is not anticipated in 1964.

\*\*Use \$300 plus \$100 for each dependent. If deductions are not itemized, the maximum is 10% of the Gross Income but not higher than \$1,000.

### ESTIMATED TAX TABLE

ANNUAL TAXABLE INCOME	SINGLE TAXPAYER		MARRIED TAXPAYERS—JOINT RETURN	
	1963	1964	1963	1964
\$ 500	Am't. 20	Am't. 16.5	Am't. 20	Am't. 16
1,000	200 20	162 17.5	200 20	160 16.5
1,500	300 20	250 18	300 20	242 16.5
2,000	400 22	340 20	400 20	325 17.5
2,500	480 26	420 23.5	480 22	400 20
3,000	560 30	500 27	560 26	480 23.5
3,500	640 34	580 30.5	640 30	560 27
4,000	720 38	660 34	720 34	640 30.5
4,500	800 42	740 37.5	800 38	720 34
5,000	880 46	820 41	880 42	800 38
5,500	960 50	900 44.5	960 46	880 42
6,000	1,040 54	980 48	1,040 50	960 46
6,500	1,120 58	1,060 51.5	1,120 54	1,040 50
7,000	1,200 62	1,140 55	1,200 58	1,120 54
7,500	1,280 66	1,220 58.5	1,280 62	1,200 58
8,000	1,360 70	1,300 62	1,360 66	1,280 62
8,500	1,440 74	1,380 65.5	1,440 70	1,360 66
9,000	1,520 78	1,460 69	1,520 74	1,440 70
9,500	1,600 82	1,540 72.5	1,600 78	1,520 74
10,000	1,680 86	1,620 76	1,680 82	1,600 78
10,500	1,760 90	1,700 79.5	1,760 86	1,680 82
11,000	1,840 94	1,780 83	1,840 90	1,760 86
11,500	1,920 98	1,860 86.5	1,920 94	1,840 90
12,000	2,000 102	1,940 90	2,000 98	1,920 94
12,500	2,080 106	2,020 93.5	2,080 102	2,000 98
13,000	2,160 110	2,100 97	2,160 106	2,080 102
13,500	2,240 114	2,180 100.5	2,240 110	2,160 106
14,000	2,320 118	2,260 104	2,320 114	2,240 110
14,500	2,400 122	2,340 107.5	2,400 118	2,320 114
15,000	2,480 126	2,420 111	2,480 122	2,400 118
15,500	2,560 130	2,500 114.5	2,560 126	2,480 122
16,000	2,640 134	2,580 118	2,640 130	2,560 126
16,500	2,720 138	2,660 121.5	2,720 134	2,640 130
17,000	2,800 142	2,740 125	2,800 138	2,720 134
17,500	2,880 146	2,820 128.5	2,880 142	2,800 138
18,000	2,960 150	2,900 132	2,960 146	2,880 142
18,500	3,040 154	2,980 135.5	3,040 150	2,960 146
19,000	3,120 158	3,060 139	3,120 154	3,040 150
19,500	3,200 162	3,140 142.5	3,200 158	3,120 154
20,000	3,280 166	3,220 146	3,280 162	3,200 158

The "Amount" columns show the total tax liability for the exact annual taxable income shown in the left-hand column. If your annual taxable income is greater than an exact amount, multiply the excess taxable income by the rate (percentage) shown and add the product to the exact amount.

Example—Single taxpayer with \$7,500 annual taxable income:  
1964 tax — \$1,210 plus 27% of \$1,500 (\$7,500 — \$6,000) — \$1,615



Roger L. Pilloton

## Metals Society Sets Alcoa Tour March 18

### Dinner Meeting Set At Spikes' Restaurant

The Oak Ridge Chapter of the American Society for Metals will have a two-part program next Wednesday, March 18. In the afternoon, the chapter will tour the Aluminum Company of America's facilities at Alcoa, Tennessee. That night, Dr. Roger L. Pilloton, Metals and Ceramics Division, Oak Ridge National Laboratory, will discuss the "European Common Market."

Pilloton, a native of France and frequent visitor to Europe, has become increasingly interested in the economic development of Europe and especially the Common Market. He has met with some of the organizers, of particular note, Jean Monnet. His talk will deal with his impressions and conversations with these key people who affect Europe's economy.

Author of several technical papers and coauthor of a book on columbium and tantalum, Pilloton has taken several patents in the field of extractive metallurgy. He received a degree in Chemical Engineering from the Institute of Chemistry, Toulouse, and the Doctor of Science from the University of Paris.

Arrangements for the plant tour and dinner meeting will be as follows: The plant tour at Alcoa will commence at the North Plant at 4 p.m. (call extension 6923 for information on directions.) The meeting will be held at Spikes' Restaurant, Alcoa Highway, near the Airport. The social period begins at 6:15 p.m.; dinner at 6:45 p.m., and the technical session at 8.

### SURGICAL GLUE

Chemical progress has come up with synthetic glue which can be used instead of sutures in delicate tissue surgery.

## SAFETY SCOREBOARD

The Y-12 Plant Has Operated 35 Days Or 1,159,000 Man-Hours (Unofficial Estimate) Without A Disabling Injury Through March 8

Phone 7755 For Daily Report On Accident-Free Hours

## Union Carbide New Plant Outlay Expected To Be At Higher Level

### Annual Report Indicates UCC Has Several Key Research, Development Projects Under Way

Union Carbide Corporation spent \$169.5 million on new construction in the United States, Canada, and Puerto Rico in 1963, and for the next few years expects its capital expansion program to run in excess of \$200 million annually, according to the annual report just mailed to stockholders. The 1963 expenditures were 17 per cent above the previous year.

Sixty-one per cent of the 1963 total construction expenditures was in the chemicals and plastics area; twenty-four per cent was in the oxygen, hydrogen, and industrial gas field; and the balance was for carbon products and metals.

### Many New Building Projects In United States

Among the new projects that the Chemicals Division has under way is a 200 million-pounds-per-year expansion of facilities for producing acetic acid—a key chemical in making coatings, adhesives, textiles, and plastics. Other major projects are a new styrene plant to serve the plastics and rubber industries; additional facilities for ethyl and isopropyl alcohols for a wide span of uses; a sorbic acid plant that will triple capacity for food preservatives; a motor oil additives plant; and additional textile fiber facilities. In 1963, the division placed in operation a new latex plant producing 12 products for use in surface coatings; and an isocyanate plant to round out a full line of chemicals for making urethane foams.

Four major plant expansions were begun by Union Carbide's Plastics Division during the year: a plant to produce plastic bottles; additional facilities for low-density polyethylene and high-density polyethylene resins; and new phenolic resin facilities.

The Linde Division reported that it has commitments to build several on-site air-separation units totaling an additional 5500 tons per day of capacity to meet individual steel and chemical plant needs. It will build the largest air-separation plant in the world at Gary, Indiana. This plant will serve U. S. Steel Corporation's Gary Works, and will help other steel company requirements in the area.

### Linde Installed Seven New On-Site Plants

In 1963, the Linde Division installed seven new on-site plants for producing gaseous oxygen and nitrogen — providing a total new capacity of 1900 tons a day. Also, it completed substantial expansions of two major liquid oxygen-nitrogen plants, and the largest carbon steel welding wire production plant in the country to meet the requirements of its customers in the electric welding markets.

The largest forming press in the graphite industry was placed in operation by the Carbon Products Division in 1963. Other important building projects completed by Union Carbide divisions last year included: a large-scale plant for making graphite cloth — a high-temperature textile used in space equipment; additional activated carbon facilities to meet the growing demand for this product as a gas adsorbent in air conditioning, gasoline recovery, and other industrial processes; additional facilities that resulted in a fourfold increase in melting capacity for producing special alloy metals for the space, missile, and aircraft industries; a pilot plant for processing asbestos ore; and a new battery plant in Greenville, North Carolina, providing increased capacity for miniature round cell batteries.

### Further Expansion in Canada and Overseas

In Canada, several significant construction projects are under way. Additional units are being built that will double Union Carbide Canada Limited's capacity for producing oxide derivatives used in making surface coatings, synthetic detergents, and many other applications. A further expansion of facilities for producing polyethylene resins will increase capacity by one-third. A major expansion of polyethylene film extrusion facilities is also under way.

Overseas, Union Carbide has more than 50 subsidiary and affiliated manufacturing, mining, and sales companies. Last year, these companies spent about \$25 million on construction, compared with 1962 expenditures of approximately \$37 million. Among the overseas building projects completed during 1963 were a new plastics plant in Sweden and a substantial addition to a plastics plant in Australia. New chemical units were installed in England and Italy. Electrode facilities were expanded in France and Mexico, and dry battery facilities were substantially expanded in a number of locations.

### Research and Development in Many Fields

Union Carbide's expenditures for research and development in 1963 amounted to \$85 million, compared with \$81 million in 1962. This does not include the cost of new laboratory facilities, research under government contracts, market research, patents, or work done in factory quality-control laboratories.

The chemicals research and development laboratories have been



# The Bulletin

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Y-12 Employees Of  
UNION CARBIDE  
CORPORATION



NUCLEAR DIVISION

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## Metals Society Plans New Course

A special educational course "Heat Treatment for Metals," sponsored by the Oak Ridge Chapter of the American Society for Metals, will be held this Spring. It will be in the Oak Ridge High School, part of the Adult Education Program. The course should prove invaluable to the layman with limited preparation in the physical sciences, but whose work requires an understanding of heat treatment technology. Emphasis will be placed on practical applications, although sufficient theory will be presented to introduce principles and procedures.

Lecture and discussion topics will include areas of general interest, including hardening, tempering, annealing, normalizing, carburizing, nitriding, and cyaniding of steel. The heat treatment of nonferrous metals, such as precipitation hardening and annealing and the effect of welding variables on the properties of the heat-affected zone in weldments will also be discussed. The classes will be held on Mondays, from 7 until 9 p.m. They will begin March 23. The instructor is J. J. Prislinger, and the cost of registration is \$12.

For further information, call J. E. Thompson, extension 7149, or J. J. Prislinger, 6694.

## ORCMA Guild Planning Big Dance, March 20

The Oak Ridge Civic Music Association's Women's Guild announces plans for the third annual ORCMA dinner dance. It will be held at the Oak Ridge Country Club, Friday, March 20. Beginning with dinner at 7:30 p.m., the affair promises to be the biggest of the three.

Highlighted by a fashion show, several well-known Oak Ridgers will portray TV favorites in brief skits.

Jerry Collins and his orchestra will furnish music for dancing. Tickets for the entire evening are \$5.50 each. The proceeds will be used for the benefit of ORCMA.

Tickets are available from any member of the Guild.

## Katharine Way Discusses Nuclear Systematics

Katharine Way, Oak Ridge National Laboratory Physics Division, will lead Friday's seminar. She will discuss "Nuclear Systematics and Scientific Information."

The Physics Division seminar is set for Friday, March 13, in the East Auditorium of ORNL's 4500 building at 3:15 p.m.



O. Henry, the great short story writer once said, "A man asleep is certainly a sight to make angels weep. Now, a woman asleep you regard as different. No matter how she looks, you know it's better for all hands for her to be that way."

So much for literature . . .  
News travelling around Y-12 begins in

### FABRICATION

"We goofed," yells a fine reporter from Machine Maintenance. "Those pretty babies we attributed to Franklin E. Cox are his grandchildren. So apologies to Anita Melissa Stansberry, Michelle Renee Cox . . . and to grand-pop Cox!"



Airman Vaughn and Family

The Fred Vaughn family (he's in the General Machine Shop) is extremely proud of their son, pictured above with his family. He is A-2/C James Fred (Jimmy) Vaughn, wife Patricia and daughter Michelle Maureen. Jimmy shipped out from McChord Air Base, Tacoma, Washington, last month for duty in Siagon, Vietnam.

When a man goes to the beach, it's hard to tell where he lied the most . . . at the beach . . . or when he got back home.

### PRODUCT ENGINEERING

Over in Beta Four Tool Design Ted Sizoo and family have found a perfect cure for the Winter blues. They recently moved into their new home and are also enjoying the luxurious feeling of being new car owners.

H. R. Vinson has left for the sunny shores of California . . . good luck to him.

Get well wishes are sent to Betty Rose, convalescing at home after surgery.



Bridget Maria Bassett

And how about this pretty miss? She is Bridget Marie Bassett, daughter of John and Mary Bassett. (John's in Tool Engineering.) Bridget was born January 27 and weighed seven pounds and six ounces. Her debut was made at St. Mary's Hospital, Knoxville.

An Indian we know recently complained . . . said you couldn't even get a decent meal in New York for \$24, the price his ancestors got for Manhattan!

Sandwich spread is what you get from eating between meals.

### INDUSTRIAL RELATIONS

Down in the Cafeteria, if you're wondering why Willie Mae Braden is smiling these days . . . there's a pretty good reason. In a grocery store drawing the other day, she won a brand new car, stacked full of groceries! She lives near Oliver Springs.

### MAINTENANCE



David L. Hawk

In Buildings, Grounds and Maintenance Shops, the talk of the place is Larry and Helen Hawk's new son. David Lawrence arrived at Fort Sanders Presbyterian Hospital at 8:25 a.m. on Wednesday, February 26. He scaled in at seven pounds and 13 ounces.



James Keith Bryson Jr.

Now five months old, here is the handsome son of James K. Bryson, Maintenance Administrative Services. Junior is also the son of Gloria Bryson, formerly Gloria Williams, and formerly of the Thermonuclear Division in Y-12. "Old laughing boy," they call him here.

### MATERIALS & SERVICES

Timekeeping sends get well wishes to W. E. Gallaher in Baptist Hospital.

Plant Records extends sympathy to Dot Conner on the recent death of her mother-in-law Mrs. Myrtle Conner.

On the sick list from Stores are R. L. Babb and E. W. Burchfield. The best to them.

Vacationing from Stores is J. B. Moneymaker at home.

Let's beat it to Knox!



A sextet of Y-12ers enjoy china anniversaries with Union Carbide Corporation in the next few days. In other words, six pass their 20th anniversary. Another host reach the half-way mark there, observing 10th anniversaries.

### 20 YEARS

Oscar M. Blackwell Jr., Utilities, March 13.

Dora D. Bagwell, Uranium Chemistry, March 14.

Irene Posey, Janitors' Department, March 15.

John P. Wood, ORNL Chemical Services, March 15.

Verney O. Sharp, Production Assay, March 16.

Charles P. Coughlin, Metallurgical Development, March 16.

### 10 YEARS

Benjamin F. Porter, Research Services, March 11.

William F. Henline, Assembly Operations, March 11.

Carl M. King, Uranium Machining, March 11.

Hubert W. Henley, Dimensional Inspection, March 11.

Glen R. Owen, Special Mechanical Production, March 11.

Owen A. Moore, Quality Assurance, March 11.

Larry N. Moncier, General Machine Shop, March 11.

Edsel F. Litton, Uranium Machining, March 11.

Frank D. Lively, Beta Four Heavy Machine Shop, March 11.

Frank J. Mason, Dimensional Inspection, March 11.

Sherman A. Morton, Special Mechanical Production, March 11.

Charles H. Turner, Special Mechanical Production, March 11.

James H. Grantham Jr., Dimensional Inspection, March 11.

Wade W. Clem, Dimensional Inspection, March 11.

James C. Cate, Special Mechanical Production, March 12.

Henry R. Mullins, Special Mechanical Production, March 12.

John L. Brown, Dispatching, March 12.

Edwin A. Reed, Alpha Five Machine Shop, March 12.

Jesse L. Donahue, Dimensional Inspection, March 12.

Jessie Massengill, General Machine Shop, March 12.

Edward L. Armstrong Sr., General Field Shop, March 15.

Arthur O. Roberts Jr., Alpha Five Machine Shop, March 13.

Carey C. Morgan Jr., Dimensional Inspection, March 15.

Marsie Neal, Stores Department, March 15.

John M. Sinclair, Buildings, Grounds and Maintenance Shops, March 15.

James C. Chamblee, General Machine Shop, March 16.

Velky D. Boyd, Secondary Quality Control, March 16.

Woodrow W. Raper, Dispatching, March 17.

Francis L. Hise, General Machine Shop, March 17.

Earl H. Barton, Quality Assurance, March 17.

Donnie A. Mingis, Dimensional Inspection, March 17.

James F. Paschall, Stores Department, March 17.

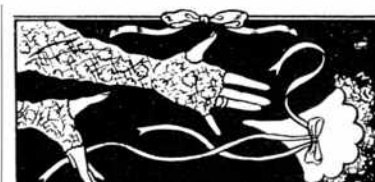
Marvin G. McGill, General Machine Shop, March 17.

Hiram M. Malicoat, General Machine Shop, March 17.

Thomas W. Bailey Jr., Alpha Five Machine Shop, March 17.

HI-FLYING FERTILIZER

A low-cost chemical can be dropped to put out forest fires which, afterwards, acts as a fertilizer to stimulate new plant growth.



## WEDDINGS



Mrs. David Lee Lennon

### LENNON-CARVER

Miss Carolyn Marie Carver was married Saturday, February 15, to Mr. David Lee Lennon, at the First Baptist Church, Oak Ridge. The Reverend Edward D. Galloway officiated at the rites, which were attended by the couples' families and close friends of the bride's.

The bride is the daughter of Mr. and Mrs. William R. Carver, 121 North Purdue Avenue, Oak Ridge. He is in Y-12's Research Services. The bride also worked during the summers in Y-12 for the ORNL Stable Isotopes Division. She is a graduate of Oak Ridge High School, and holds a BS degree in business education from the University of Tennessee. She is presently a teacher at Dundalk Senior High School, Baltimore, Maryland.

The groom is the son of Mrs. MacRae Lennon Sr., and the late Mr. Lennon. He is employed as a design engineer at Bendix Radio Division, and holds a BS degree in mechanical engineering from Drexel Institute of Technology.

The bride's parents hosted a dinner at the Holiday Inn immediately following the ceremony and a reception was held at their home that evening.

After a wedding trip, the couple is at home at 5636 Purdue Avenue, Baltimore, Maryland.

## Cameron To Speak To ACS Group Tuesday

The Analytical Group of the East Tennessee Section of the American Chemical Society will meet Thursday, March 12, at 8 p.m. The featured speaker will be A. E. Cameron, assistant director of ORNL's Analytical Chemistry Division. His subject will be "1961 Table of Atomic Weights."

The meeting will be held in the Training Building, Oak Ridge Institute of Nuclear Studies, and is open to all interested parties.

### H2S04 CONSUMPTION

The annual consumption of sulfuric acid — a "chemical indicator" of economic health — has grown from 105 pounds per person in 1939 to 213 pounds per person in 1963, according to the Manufacturing Chemists' Association.



# Cool Cats Keep A Cool Mixed Lead

**Ann Rackley Paces Team To New Highs**

Leaders in the Mixed League for Y-12 bowlers last week held their hot race as the Cool Cats and Ghosts both took three point wins. The Cats took the Pin Plasters, while the Ghosts took the Alley Cats. The Scrappers had an easy victory, taking four rolling blind. The Goofers and Phantoms shared two points each.

Ann Rackley, Cool Cats, paced her team, taking all female honors rolling singles of 197, 242 and series of 511 and 646! Al Wyrick, Phantoms, took singles, posting a 191, 229. Charley Gillihan, Ghosts, took scratch series, rolling 514 . . . and Wyrick had high handicap series with 616.

The Ghosts took handicap highs, rolling singles of 812 and series of 2317. The Goofers and Cool Cats shared scratch honors . . . the Cats rolling singles of 657 and the Goofers taking marks of 1854 in series count.

League standings follow:

Team	W	L
Cool Cats	25	11
Ghosts	23½	12½
Goofers	22	14
Phantoms	21	15
Pin Plasters	18	18
Alley Cats	17½	18½
Scrappers	17	19

# 760's Swamp Bush League Cellardwellers

The Seven Sixties continued their unrelenting hold on top notch of the Bush League for Y-12 Bowlers last week. They clobbered the Beavers for the big count. Three point wins went to the Turtles over the Rollmasters, the Hi Balls over the Rollniks. Two split score games were noted as the Rusty Five-Dry Hides and the '66' Raiders-Outcasts tied it up.

Ralph Mount, Turtles, swept individual honors all the way . . . taking singles of 221 and 258 . . . and series of 566 and 677.

The Seven Sixties parred a 939 single scratch score . . . while the Turtles took handicap honors with 1086. The Rusty Five rolled high series scratch totals of 2501 and the Seven Sixties returned to the board with a 2914 handicap series.

League standings follow:

Team	W	L
Seven Sixties	19	5
Turtles	15	9
Hi Balls	14	10
Rusty Five	13	11
Dry Hides	12	12
'66' Raiders	12	12
Rollmasters	11	13
Outcasts	10½	13½
Rollniks	10	14
Beavers	3½	20½

# Y-12 Rifle Team Opens With Bang!

The Spring Rifle League began last week with Y-12 taking the early lead. The second week found Y-12 winning again with a score of 1424. High scorers were: Art Hensley — 291; Bob Powers — 289; George Peterson — 285; Jerry Holcomb — 280; and Dave DeWalt — 279.

League standings:

Team	Points
Y-12	6
ORNL	3
Independents	3

# FIRSTEST WITH MOSTEST

The first mass production of Uranium-235 was accomplished in the Y-12 Plant, a complex covering approximately 500 acres.



**OLE MAN** 'Tennessee' River produced this handsome specimen of a sauger pike for Bud Wilson, Alloy Shop, who used a live minnow to lure the fish onto a stringer. He makes a strong early entry into the Annual Fishing Rodeo among Y-12 anglers.

# Big Five Edge Out In C League Race

**Oliver And Sise Share Individual Highs**

The scramble for the lead in the C League bowlers got unscrambled last week as the Big Five surged out in front with their big win over the Rodders, for the only sweep of the week. Three point wins went to the Lucky Strikes over the Strikers, the Hookers over the Sunflowers and the Hi Lifers over the Shud-A-Beens. Two points were shared in the Screwballs-Parbustlers, Rounders-Five Roses tilts.

Herb Oliver, rolling for the Rounders, fired single highs taking a 234 scratch, 266 handicap count. Big Ed Sise, Big Five, rolled big in series count with a 585 scratch, 648 handicap.

The Big Five, with their clean sweep, took all team honors, rolling singles of 966 scratch, 1107 handicap . . . and series of 2669 and 3092.

League standings follow:

Team	W	L
Big Five	25	15
Shud-A-Beens	23	17
Rodders	22	18
Five Roses	22	18
Lucky Strikes	22	18
Hookers	22	18
Sunflowers	21	19
Strikers	20	20
Rounders	20	20
Hi Lifers	19	21
Screwballs	12	28
Parbustlers	12	28

# Beavers Keep Volleyball Tie With Set-Ups

Y-12's Beavers continued a dead-lock in the Volleyball League last week as they took three games from the ORNL Bums, winning 15-0, 15-4, and 15-2. The ORNL Set Ups, right up there with the Beavers, also won three from the ORNL Scrubs, 15-2, 15-9 and 15-11.

ORNL's Old Men took three from Six Pots, also of ORNL, 15-6, 15-13 and 15-7. Y-12's Eagles won one from the ORN Champs 15-9, then dropped two 15-7 and 15-7.

League standings follow:

Team	W	L
Beavers, Y-12	16	2
Set-Ups, ORNL	16	2
Old Men, ORNL	12	6
Eagles, Y-12	9	9
Champs, ORNL	9	9
Six Pots, ORNL	6	12
Scrubs, ORNL	4	14
Bums, ORNL	16	2

# Skeet League Opens New Spring Firings

**Second Round Coming Saturday And Sunday**

The first round of competition in the Spring Skeet League was held Saturday and Sunday, February 29, and March 1. Standings follow (highest possible firing is 25):

## CLASS AAA

J. A. Swartout, ORNL	24
K. W. Bahler, ORGDP	24
F. G. Welfare, Y-12	23
W. E. Brundage, ORNL	22
J. M. Case, Y-12	20
Bob Powers, Y-12	19
W. H. Davy, ORGDP	17

## CLASS AA

M. C. Wiest, Y-12	24
F. S. Patton, Y-12	24
C. Asmanes, Y-12	20
M. L. Bailey	18

## CLASS A

Newt Hamby, Y-12	21
R. H. McNabb, Y-12	19
R. A. Allstun, Y-12	18
J. P. Murray, UCNC	14
Wally Davis	13

The next round will be fired this week-end, March 14 and 15. New shooters are invited to join the league at that time. The attention of all former competitors is called to the following new rules which the present league has adopted:

1. The round which is to be counted in the league must be designated on the scoresheet before it is fired.

2. One round may be pre-fired or one round which has been missed may be made up provided the rounds are properly designated on the score sheet before firing. No shooter may be more than one round ahead of the field at any time and any firer who gets more than one round behind forfeits the excess rounds.

# Markers Gain On Bumpers In Classic

The Rebels got hot in the Classic League for Y-12 bowlers last week and man-handled the league leading Bumpers for four points. Other sweep wins went to the Playboys over the Wasps, the Markers over the Cubs, and the Screwballs over the Splinters.

The Has Beens took three from the Tigers . . . and the Swingsters won three from the Eightballs. The Smelters took the Rippers and the All Stars took the Wasps for three also.

John Boyd, Markers, marked his way into individual glory in singles, rolling a 243, 270 game. Tom Hillard, also of the Markers, made series honors with 612 and 675 totals.

The Has Beens took singles, with 952 scratch, 1070 handicap scores and the Markers took series highs with scores of 2659, and 3028.

League standings follow:

Team	W	L
Bumpers	32	12
Markers	30	14
Has Beens	28	16
Swingsters	26	18
Playboys	24	20
Tigers	22½	21½
Wolves	22	22
Smelters	22	22
All Stars	21½	22½
Rippers	21	23
Screwballs	21	23
Rebels	19	25
Splinters	18	26
Wasps	17	27
Eightballs	16	28
Cubs	12	32

# BOOK APPEAL

'Only two classes of books are of universal appeal: the very best and the very worst.' Ford Madox Ford



**GREG McBEE, BRIGHT YOUNGSTER** of Carl (Buildings, Grounds and Maintenance Shops), and Loretta, Special Projects, holds a string of grouse Papa Carl and some friends recently bagged in Roane County. Hunter Carl, when asked if grouse-meat was good eating, stated: "I don't know. Never ate any!"

# Y-12 Rebs, Atoms Suffer Only One Loss In Basketball League

ORGDP's Hot Shots and ORNL's Metals and Ceramics opened last week's action in the Carbide Basketball League, the M&C crowd winning 50 to 35. The winners kept the pressure on from the opening gun and kept it up, gradually pulling away. Vandermeer led the victors with 19 big points.

Y-12's Rebs, now in a tie for first place in the league, eased by the ORGDP All Stars 47 to 41 in a good game that was decided at the foul line. The Rebs made 13 of 24 attempts while the losers were getting only one of eight. Jim Pugh made nine of his 13 tries at the line, leading scoring with a total of 17 points.

Very few shots were even tried in the Analytical Chemistry, Cell Four (both ORNL) game with the AC's winning 28 to 25. The tight zone employed by both opponents kept shooting at a minimum.

## Atoms Take Squeaker

Y-12's Atoms rebounded back last week to clip the Fearless Five, ORNL, 57 to 54 in a very close, very well played game. The lead changed hands many times with Jim George leading scoring for 25 points. Culton followed with 18 major tallies for the winning Atoms.

Wednesday's action began with the Independents taking an easy victory from the Fearless Five, both ORNL teams, 62 to 28. Harvey Goolsby, as usual, led the victors with 19 points.

# Martin And Less Take Pistol Honors

The 'big bulls eye busters' of Y-12 fired their ninth match of the Winter Season on February 27. G. W. Martin walked off with the highest average score of 259 in the Pistol League and W. A. Less grabbed the high handicap tally with 288.661.

Standings:

Firer	Avg. Score	H'Cap Score
C. V. Terry	219	288.242
T. E. Hudson	188	287.567
T. C. Swindell	229	286.867
G. W. Martin	259	288.436
W. A. Gregor	215	288.369
W. A. Less	243	288.661
R. L. Matheney	252	287.328
G. L. Davis	243	284.472
E. C. Williams	244	283.265

## Rebs Win Again

Y-12's Rebels took their second game of the week, easy this time, defeating the ORGDP Hot Shots 65 to 34. Don Mahaffey got 18 through the bucket, Ronnie Williams 17 and Jim Pugh 15 . . . which spelled part of the big difference.

The poor Peons from Y-12 lost a close one, falling to the ORGDP All Stars by two points, 35 to 33. Steve Cates tossed in the winning basket for the ORGDP team with one second remaining on the clock. The usually-high scoring Cates thus earned his first basket of the night.

Jim Crunk led the Peons with 13 and Jim Fraola scored 10. Terry Mothershed took 13 points for the All Stars.

League standings follow:

Team	W	L
Rebs, Y-12	5	1
Independents, ORNL	5	1
Atoms, Y-12	4	1
Metals & Ceramics, ORNL	3	1
Fearless Five, ORNL	4	3
All Stars, ORGDP	4	3
Analytical Chemistry, ORNL	2	2
Cell Four, ORNL	1	5
Hot Shots, ORGDP	0	5
Peons, Y-12	0	5

# Cannonballs Alley Bees Vie In E League

Another tie developed in E bowling last week as the Cannon Balls and Alley Bees are now deadlocked. The Alley Bees took three from the Cannon Balls as they took on the former league forerunners. The Ten Pins took four from the Foursquares . . . and the Pinquins-Pintwisters duel ended in a draw.

Van Effler, Pintwisters, captured high singles honors, rolling a 204 game in scratch count, and 241 in handicap. J. R. Murph, Ten Pins, took series honors rolling 511 and 628.

The Pintwisters took team highs in singles, rolling 635 and 804 . . . while the Ten Pins took series honors, posting scores of 1847 and 2388.

League standings follow:

Team	W	L
Cannon Balls	20	12
Alley Bees	20	12
Ten Pins	18	14
Foursquares	16	16
Pinquins	12	20
Pintwisters	10	22





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## O. C. Yonts Speaks To IEEE Tomorrow

The Oak Ridge Section of the Institute of Electrical and Electronic Engineers meets tomorrow, Thursday, March 12, at 7:30 p.m. in the Green Room of the Oak Ridge Recreation Hall.

Featured speaker will be Oliver C. Yonts, physicist in the Thermomuclear Division of Oak Ridge National Laboratory. His topic will be "Modern Railroads." He has been interested in railroads all his adult life and



O. C. Yonts has an HO gauge model lay-out in his home. He has also acquired many photographs of trains, railroad cars and equipment from all over the country. Selected slides from his collection will be shown at the meeting. He is a charter member of the Knoxville-Oak Ridge Chapter of the National Railway Historical Society and helps plan and sponsor far trips each year over railroads in the East Tennessee area.

A native of Greenville, Kentucky, Yonts is a graduate of Southwestern College, Memphis. He has done graduate work at the University of Chicago and Louisiana State University.

All members and guests are invited to attend the IEEE meeting.



Rider wanted from Athens, via Sweetwater, Loudon, Lenoir City, to any portal, straight day. A. R. Shamblin, plant phone 7181, home phone Athens 745-2838.

Riders wanted from Rambling Acres, West Haven vicinity, Knoxville, via Oak Ridge Highway, to East or North Portal, straight day. Brad Napier, plant phone 7028, home phone Knoxville 523-1064.

Car pool member wanted from Cherokee Hills, Kingston, to any portal, straight day. J. R. Pelfrey, plant phone 7-8391.

Two riders wanted from Harri-man to West or Bear Creek Portal, straight day. R. W. Curtis, plant phone 7-8465, home phone Harri-man 882-2949.

Ride wanted or will join car pool from Lenoir City to Central Portal, straight day. Joyce Williamson, plant phone 7-8394, home phone Lenoir City 986-2806.

It frequently happens in human affairs that necessity is the mother of excuses.

## Anita Fuis Awarded Norris DAR Honors



Anita Fuis

Norris High School's faculty has selected Anita Fuis to receive the Daughters of the American Revolution Award. She is the daughter of Mr. and Mrs. Frank Fuis Jr., 52 Pine Street, Norris. Her father is in Y-12's Tool Engineering Department.

The Fuis daughter is an active member of the Science Club, Spanish Club, Girls Intramural Association, Beta Club, and Pep Club. As a junior, she was selected to be an American Field Service candidate. Her high scholastic average, sincerity and leadership enabled her to become a member of the National Honor Society. She held down leading roles in both junior and senior plays, and her interest in people promoted her volunteering as a Nurse's Aid at St. Mary's Hospital, Knoxville.

Anita is also active in community affairs. She is a Senior Girl Scout, and has been treasurer of the organization. Active also in the Teen Club and the Norris Little Theatre, Anita attends the Norris Religious Fellowship Church and participates in the Youth Fellowship there.

## New Quarterly Fishing Rodeo Opened Saturday

The new Spring Fishing Rodeo opened last Saturday, March 7, and will continue through July 13. The seasonal rodeo does not require a photograph of the catch as does the Annual Contest. Entry blanks for the eight species competition may be picked up in the Recreation Office, or just telephone extension 7109.

## Coast Guard Boating Instructions Offered

There will be a United States Coast Guard-sponsored course in small boat operations Friday, March 13. The free-of-charge course will be held at 7:30 p.m. at the Fountain City branch of the Hamilton National Bank.

## Union Carbide's New Plant Outlay Expected To Be At Higher Level In Next Few Years

Continued from Page 1  
devoting considerable effort to the production of new miticides, herbicides, and fungicides to complete the Chemicals Division's line of agricultural chemicals. Among the new materials under development in the Plastics Division's laboratories are several polyethylene-based resins, which have properties superior to those now in existence. Also, continuing emphasis is being placed on high-performance polymers, which should help gain entrance to markets not now served by plastics. In addition, extensive research is being devoted to new processes for the fabrication of intractable polymers.

Two divisions of the corporation—Linde and Stellite—have been cooperating on the development of superconductive materials and devices that involve extremely low temperatures. Also, the corporation developed a new process for electrocladding and electroforming refractory metals, which is expected to make possible more widespread use of these metals.

### UCC Laboratories In Space Age Problems And Research

Several of the corporation's laboratories are doing research on special problems of the space age, and the solution of these problems may have important commercial application. For example, working under four U. S. Air Force contracts totaling approximately \$3.2 million, research scientists of the corporation's Carbon Products Division are developing special graphite (highly refined carbon) materials for aerospace use. The Linde Division is developing new applications for its plasma arc process that are expected to be used not only in high-temperature chemical reactions, but also in aerodynamic studies. It has been found that the wind tunnel effect of heated high-velocity air closely approximate re-entry conditions.

Other research activities having to do with space-age problems mentioned in the annual report were the development of packaged fuel cell power systems; the study of life sciences and plant physiology as they relate to space biology; the development of high-performance refractory (high-temperature) materials for defense and space applications; and the development of chemical processes making use of nuclear energy.

### Major Product Developments Cited

During 1963, the corporation's Chemicals Division, which markets more than 400 synthetic organic chemicals to every major branch of industry, introduced new products for use in making urethane foams, plastics, and pharmaceuticals. The Olefins Division, which supplies many chemical raw materials, make available to the detergent industry new alkylate chemicals for producing biologically soft detergents. Several new products introduced by the Silicones Division are helping to meet the needs of urethane and other plastic foam producers. Union Carbide is now the only supplier to have a complete line of chemicals for foam production.

### Plastics Division Made History Last Year

The Plastics Division, which furnishes more than 1,000 different formulations of seven basic types of plastics, became the first in the industry to produce and ship more than one billion pounds of plastics in a single calendar year. The division also started manufacturing polyethylene bags for industrial use. The corporation's Visking Division, which makes casings of cellulose and plastic films for use both in the production and packaging of food, introduced automatic rotary packaging machines for packaging processed meats and a sealing machine for the final closure of tray packaged poultry.

As part of a continuing effort to meet government requirements for space equipment, the Carbon Products Division broadened its interest in refractory materials to include pyrolytically produced graphite. The new material is expected to find use as a heat barrier or insulation in missiles and rockets.

In order to capitalize on its wealth of technological background and manufacturing experience, the Linde Division will engineer and fabricate—for other companies—distillation, adsorption, and cryogenic systems similar to those that have proved so efficient in the corporation's own operations. The Linde Division also reported that it is completing—for a hospital in New York—the first full-sized hyperbaric surgical chamber in the United States. It will be used for treating patients with pure oxygen under high pressure.

Among the new products introduced by the Metals Division during the year were high-purity ferrocolumbium and nickel-columbium alloys for making aerospace metals. The Stellite Division reported that it is currently supplying the U. S. Air Force and aerospace manufacturers a new metal based on columbium, and that its new tantalum-base alloy is proving useful in the development of rocket motors and nuclear weapons systems.

### Nuclear Division Increased Mining And Milling Activities

The Nuclear Division increased the scope of its mining and milling activities—which have been concerned principally with uranium, vanadium, and tungsten—to include asbestos. During the year, the division's contract with the government for operating four of the Atomic Energy Commission's major nuclear installations was extended until June 30, 1967. The Nuclear Division also reported that in addition to selling radioisotopes produced in its own nuclear facilities, it is furnishing to industry nuclear technology services, such as neutron activation analysis (a highly sensitive analytical technique).

An important move to broaden the market for battery-operated devices was reported by the corporation's Consumer Products Division, which markets Eveready batteries and Prestone anti-freeze. In addition to supplying batteries, it will provide design and production facilities for complete motor assemblies, it will provide design and production facilities for complete motor assemblies using

## Red Prison Theme Of Playhouse Opus

Y-12ers have prominent roles in the Oak Ridge Playhouse's new production of "Darkness at Noon." Milton Carey portrays an inmate in a Russian prison during the purge of the 30's in Moscow and Ernest Earley will make his third appearance of the season, playing an Italian named Pablo.

"Darkness" will open tomorrow, Thursday, March 12 and will also play Friday and Saturday, March 13, 14 and the following week-end March 19, 20 and 21.

The play is based on Arthur Koestler's classic novel where a man is gradually disillusioned by the Communist Party. Koestler himself was a member of the party, but after several trips to Russia and a close study of the philosophy of the system, he recognized the evil system for what it was. The story evolves around Rubashov, a once powerful leader in the party who is imprisoned for treason and is tortured into confessing crimes he did not commit.

The powerful drama won unanimous praise in its long successful run in New York.

## Hey, It's Time To Sell Hay Again In Y-12!

Hey, it's time to sell hay again in Y-12. The Property Sales Office says that it's contract time for the cutting, baling and removal of hay from grounds inside and outside the Y-12 perimeter fence.

Interested parties should contact R. V. Brackney, telephone 483-8611, extension 4601. Inspection map is available at the Property Sales Office in Room 216, Cheyenne Hall.

rechargeable batteries. The division will also make available highly efficient, low-voltage motors for use in such devices as cameras and tape recorders.

As previously reported, Union Carbide's total sales in 1963 set a record for the fifth consecutive year. They amounted to \$1,668,188,000, compared with \$1,630,681,000 in 1962. Many of the corporation's operating divisions established new sales records. Chemicals products accounted for more than one-third of the total sales, or \$575 million. Next in line were the plastic products group with \$331 million or 20 per cent, and the industrial gases group with \$311 million or 19 per cent.

### 1963's Earnings

The annual report indicated a slight improvement in earnings over 1962. The 1963 net income (previously reported) was \$160,172,000, or \$5.32 a share. This included a capital gain of 15 cents a share from the sale of three Visking polyethylene plants. Net income in 1962 was \$159,825,000, or \$5.31 a share, which included a capital gain of 20 cents a share from the sale of the Pyrofax gas business.

Birny Mason Jr., president, commented in his letter to stockholders that during 1964 the corporation intends to press forward with as many promising new products as possible without an undue drain on earnings, and will continue cost reduction programs that have been in effect for several years. Mr. Mason said: "We believe that this approach will enable us to show an acceptable increase in current earnings and, at the same time, provide a strong basis for future growth."

There is no holiday for security.